**GCF and LCM**

**Item 1:**

Carrie is cutting sheets of stickers to put in 4 gift bags. Each bag will contain the same number of stickers. Each sheet contains 22 stickers. What is the fewest number of sheets Carrie can use so there are no stickers left over?

1. **A.**1
2. **B.**2
3. **C.**3
4. **D.**4

**Item 2:**

Which pair of numbers shows a common factor **and**a common multiple of 15 and 18?

1. **A.**3 and 60
2. **B.**3 and 90
3. **C.**5 and 180
4. **D.**6 and 270

**Item 3:**

Darlene wants to make fruit baskets for her friends. She has 15 apples and 18 bananas and wants to make every basket the same. If Darlene uses all of her fruit, what is the maximum number of baskets she can make?

1. **A.**1
2. **B.**3
3. **C.**5
4. **D.**6

**Item 4:**

Isaac is buying colored pencils and markers for his art class. There are 9 pencils in a package, and there are 8 markers in a package. He wants to buy an equal number of pencils and markers. What is the **fewest** number of pencils he must buy? Justify your response.



**Item 5:**

Terrence owns a tire shop. He has a certain number of tires for 18-wheel trucks. He has the same number of tires for 4-wheel cars as he has for the trucks. If Terrence must replace all the tires on both trucks and cars, and has no tires left over, what is the **least** total number of trucks and cars that Terrence could service?

1. **A.**  2
2. **B.**  9
3. **C.**11
4. **D.**22

**Item 6:**

Maywood is opening a new middle school. There are 48 sixth-graders, 64 seventh-graders, and 96 eighth-graders. For each grade’s orientation, the principal wants to place students in groups. Each group from all the grades must be the same size, with no students left over. What is the **largest** number of students that could be placed in each group?

1. **A.**  8
2. **B.**16
3. **C.**24
4. **D.**32

**Item 7:**

Donny plans to raise mealworms and waxworms to sell as pet food to lizard owners. He wants to buy an equal number of each type of insect to start his business. Mealworms are sold in cartons of 250. Waxworms are sold in cartons of 200. What is the **least** number of cartons of each insect Donny will have to buy?

1. **A.**He will have to buy 2 cartons of each type.
2. **B.**He will have to buy 4 cartons of each type.
3. **C.**He will have to buy 4 cartons of mealworms and 5 cartons of waxworms.
4. **D.**He will have to buy 5 cartons of mealworms and 4 cartons of waxworms.

**Item 8:**

Mr. Hebert’s class has 36 students and Ms. Green’s class has 30 students. For a class competition, each class must be divided into teams with the same number of students on every team. What is the largest team size possible for both classes?

1. **A.**  3
2. **B.**  5
3. **C.**  6
4. **D.**12

**Item 9:**

What is the greatest common factor of 78 and 42?

1. **A.**2
2. **B.**3
3. **C.**6
4. **D.**7

**Item 10:**

The numbers 10 and 12 have both a common factor and common multiples.  
  
**Part A**  
Write a common factor of 10 and 12. Prove that your answer is a factor of **both** numbers.



**Part B**  
Write a common multiple of 10 and 12 that is less than 120. Prove that your answer is a multiple of **both** numbers.

